

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 15 JUN 2004

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Applicant's or agent's file reference 03PCTES685	FOR FURTHER ACTION		See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/KR2003/000569	International filing date (day/month/year) 24 MARCH 2003 (24.03.2003)	Priority date (day/month/year) 25 MARCH 2002 (25.03.2002)	
International Patent Classification (IPC) or national classification and IPC IPC7 C12N 1/12			
Applicant ES BIOTECH CO., LTD. et al			

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 3 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of _____ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 15 MAY 2003 (15.05.2003)	Date of completion of this report 04 JUNE 2004 (04.06.2004)
Name and mailing address of the IPEA/KR  Korean Intellectual Property Office 920 Dunsan-dong, Seo-gu, Daejeon 302-701, Republic of Korea Facsimile No. 82-42-472-7140	Authorized officer LEE, CHUNG HO Telephone No. 82-42-481-8160 

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/KR2003/000569

I. Basis of the report

1. With regard to the elements of the international application:*

- ☒ the international application as originally filed
- ☐ the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the claims:
pages _____, as originally filed
pages _____, as amended (together with any statement) under Article 19
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the drawings:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language English which is

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☒ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheet _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed." and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item I and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION

International application No.

PCT/KR2003/000569

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims	6-9	YES
	Claims	1-5	NO
Inventive step (IS)	Claims	none	YES
	Claims	6-9	NO
Industrial applicability (IA)	Claims	1-9	YES
	Claims	none	NO

2. Citations and explanations (Rule 70.7)

Reference is made to the following documents:

D1: WO 87/00731 (O.R.A.I. ITALIA S.P.A.) 12 Feb. 1987

D2: JP 2000-253853 A (YONEDA MINORU) 19 Sep. 2000

I. Novelty

Claims 1-5 relate to a denatured spirulina of being removed the unpleasant smell of spirulina, of maintaining its nutrients undestroyed, of being changed the unpleasant deep blue color to rose pink, and of showing higher suspensible nature to cold water; and a food additive or food containing said denatured spirulina.

Since D1 describes a denatured spirulina and a food supplement or food, which have the same characteristics as, and of which the production method is slightly different from, the present invention, claims 1-5 of the present invention are considered to lack novelty under PCT Article 33(2).

II. Inventive Step

Claims 6-9 relate to a manufacturing process for the preparation of denatured spirulina, comprising the steps of suspending spirulina in distilled or purified water; denaturing chromoprotein in the spirulina by heating; and condensing, condensing under reduced pressure or finally freeze-drying the resulting mixture.

Since D1 describes a process for the production of a high protein-vitamin fresh or powder form food supplement from denatured spirulina, comprising the steps of suspending spirulina in purified water and denaturing the spirulina by heating it for about 15 minutes, and D2 describes a method for the production of a spirulina food for being easily taken in, which makes spirulina be easily suspended in water and deaerated by alcohol and ultrasonic treatment, the inventions claimed in claims 6-9 can be readily invented by a person skilled in the art from the inventions of D1 and D2. Therefore, claims 6-9 are considered to lack an inventive step under PCT Article 33(3).

III. Industrial Applicability

Claims 1-9 are considered to be industrially applicable under PCT Article 33(4).